

NOTES ON THE BIOLOGY OF *NACADUBA NIUEENSIS* LACHLAN (LEPIDOPTERA: LYCAENIDAE) FROM NIUE, SOUTHWESTERN PACIFIC OCEAN

R.B. LACHLAN

Entomology Department, Australian Museum, 6 College St, Sydney, NSW 2010

Abstract

Additional specimens of *Nacaduba niueensis* Lachlan, 2012 are recorded from the Pacific island of Niue and notes on behaviour of both sexes are recorded for the first time. Fresh females are illustrated and the original description augmented.

Introduction

On a second trip to the Pacific island of Niue between 30 March and 13 April 2012, a further 37 specimens of *Nacaduba niueensis* Lachlan, 2012 were collected. This included 33 males but only 4 females.

Prior to this second survey, *N. niueensis* was known only from two specimens, a male and female described by Lachlan (2012). These two specimens had been collected some 30 years apart.

On this recent trip, from one to six specimens were encountered on each day of the survey. The survey was conducted towards the end of the rainy season and all the days were at least partly sunny.

This paper is dedicated to the memory of a good friend, Courtenay N. Smithers, who took an active interest in the butterflies of Pacific islands.

Discussion

Despite careful examination of numerous sites around much of the island, specimens of *N. niueensis* were only ever seen or collected in the far north-west, even though suitable forest habitat is found around much of the island. There were no obvious reasons why this species would be confined to this one area of the island.

During the survey, most males and half the females were collected while alighting on the common forest tree *Alphitonia zizyphoides* (family Rhamnaceae), which was in flower. The males were often observed flying quite rapidly, for short periods, as they arrived at the upper reaches of this tree, then alighting on either the tips of leaves among the clusters of small, white flowers or the flowers themselves, usually facing outwards. They often engaged and drove off other lycaenids; bees and wasps that were attempting to feed on the flowers. They would then fly off over the top of the canopy. Rarely were any other specimens sighted or collected away from this species of tree and none was observed on any other species of tree in the forest or cultivated areas around the island.

Ten males and two females were collected away from this flowering tree in the far north of the island, while flying in, or near, a short section of a partly

enclosed forest trail. Six of these males and the two females were collected inside the shaded forest adjacent to the trail. They were all flying slowly between 1 and 2 metres above the ground.



Figs 1-2. *Nacaduba niueensis*, female: (1) upperside; (2) underside.

The author was lucky to come across two of these flowering trees about 80 metres apart, which allowed relatively easy access to the upper reaches of each tree with a long-handled net. *Alphitonia zizyphoides* trees often reach heights in excess of ten metres, so it is not possible to reach the tops of most of these trees to observe or collect *N. niueensis*, even if they are present.

It is now clear that *N. niueensis* primarily inhabits the canopy of the forest on Niue, which largely explains why only two specimens were collected in the previous 30 years and it also appears, at present, to be rather localised in its distribution, for unknown reasons. The vast majority of specimens collected showed varying degrees of wing damage, indicating that they had been flying for some time. There were very few fresh specimens on the wing. This may be indicative of the end of the season for this species. In addition to the specimens collected, close to that number were sighted but not collected, mostly around the two flowering trees mentioned. Therefore, *N. niueensis* appears to be relatively common, at least locally, but very difficult to collect.

Lachlan (2012) described the paratype female from the only specimen known at that time but it was slightly damaged and 32 years old. Additional notes from fresh females are provided below.

Description. Female (Figs 1-5). Upperside, unicolorous very dark brown as in Figs 1, 3-5; on three of the four specimens the basal region of the forewing on either side of the cubitus vein is lightly irrorated with bright, bluish-purple scales to varying degrees; the hind wing is also irrorated with bluish-purple scales but to a lesser degree and only from the basal and subbasal regions. This scaling is more evident when viewed obliquely. In both sexes, on all specimens collected, there is a clearly visible patch of white scaling on the basal third of the inner margin of both hind wings, as in Figs 1, 3-5. This white scaling was not seen as clearly on the holotype or at all on the paratype female. The forewing termen is more rounded than in the male.



Fig. 3. *Nacaduba niueensis*, female upperside showing distinct bluish scaling.



Figs 4-5. *Nacaduba niueensis*, female uppersides: (4) showing a trace of bluish scaling; (5) with no bluish scaling.

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Reference

LACHLAN, R.B. 2012. A new species of *Nacaduba* Moore (Lepidoptera: Lycaenidae) from Niue, southwestern Pacific Ocean. *Australian Entomologist* 38(2): 49-54.